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Relationship between Nurses Qualifications and their Roles in Prevention of High Blood Pressure in Primary Health Care Centers in Delta State

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ABSTRACT

Nurses are involved in the prevention and management of chronic diseases like hypertension in primary health care settings. However, information about the roles of nurses in prevention and managing high blood pressure in South-South Nigeria remains scarce. Therefore, this research attempts to relate the performance of nurses roles in preventing high blood pressure with their qualifications in primary health care centres in Delta State. Interviewer's administered questionnaire was used to gather information from eighty-five nurses chosen from the twenty-nine randomly selected primary health care centres in the twenty five local government areas of Delta State. Results show that the nurses performed the roles at varying degrees judged to be poor overall. The nurses' identified roles and level of performance bear no significant relationship to their qualifications. It was also observed that most of the nurses had no training in the management of hypertension and do not use the recommended NHA guidelines. These indicate the need for facilitators to organize training courses on hypertension management for nurses, and integrate such into the curriculum for nursing education.

Keyword: Blood pressure, Hypertension, Nurses, Patients, Professional qualifications, Roles.

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INTRODUCTION

Over the past decade, there has been increasing focus on integrating health promotion and disease prevention strategies into main stream health care. Yet the hospital sector is being seen as one of the last health care delivery settings to incorporate health promotion initiatives among its service role. Nurses have the greatest frequency and duration of contact with patients, have a recognised role in providing patient education and are perceived as a credible source of health information[1]. Nurses often take primary care responsibility for screening and follow up care of clients with chronic diseases in primary health care settings. One group of such clients are those with high blood pressure. Hypertension is well suited to management by multidisciplinary team. According to[2], nurses can effectively lead hypertension clinics provided they have the necessary knowledge and skills. It is expected that individual nurses will perform only those aspects of hypertension management for which they have adequate experience and have received appropriate education, but will seek appropriate consultation in instances where the client's care needs surpass their ability to act independently. The roles of the nurse in hypertension care programmes have been described as that of a team member, an educator in non-pharmacological treatment and a translator for the physician with a holistic and psychosocial approach[2]. The [3] reviewed the practice guideline on hypertension and identified the following as nurses' role and skills in hypertension management. These include: recognise potential areas for change to prevent secondary complications in hypertensive patients, work with clients to identify lifestyle factors that may influence hypertension management, counsel clients with hypertension to limit their dietary intake of sodium, advocate weight reduction strategies for overweight and obese clients, assist clients diagnosed with hypertension to understand their reaction to stressful events and how to cope and manage stress effectively, explore client's expectations and beliefs regarding their hypertension management and at each appropriate visit, assess client's adherence to treatment plan, educate clients on the importance of achieving and maintaining their target blood pressures, do routine discussion of alcohol consumption status with clients, at each visit, establish client's tobacco use status and implement brief tobacco interventions, obtain client's medication history, establish therapeutic relationships with clients, provide information for client's with hypertension to make educated choices related to treatment plan, work with prescribers to simplify client's dosing regimens and ensure that client's who miss appointments receive follow up messages for continuity of care. Studies utilizing nurses in the management of blood pressure control have shown lower systolic blood pressures readings in patients treated for hypertension[4], improved average daily adherence to medication regime[5], and higher achievement of target systolic blood pressures in patients

with Type II diabetes[6]. As providers of health care in a variety of settings, nurses have an important role in ensuring the appropriate assessment and treatment of patients with hypertension. This study is aimed at assessing nurses' roles in prevention of high blood pressure with a view to determining its relationship to their qualifications in primary health care centers in Delta State.

MATERIALS AND METHOD

Location and population:

Delta State is one of the 6 states in the South-South region of Nigeria. Twenty-nine primary health care centres in twenty-five local government areas in the state were selected as the research settings. These primary health care centers, service the health care needs at community levels and are under the management of the local government. The health care facilities serve as primary sources of care to members of the community and as the origin of referral to secondary and tertiary health institutions for further care. They also serve as clinical sites for training student nurses and midwives, and medical students in the state.

Selection of study site and respondents:

Delta State has about 290 primary health care centers (245 functional) with about 500 nurses working at the primary level (primary health care centres, comprehensive health centers, health clinics and health posts) within the twenty-five LGAs in the state. Ten percent (29) of the primary health care centers, one each from the 25 LGAs and four others were randomly selected for the study. From each primary health care center, all available registered staff nurses were recruited (a sample size of 85 nurses) to be the sources of quantitative data.

Statistics:

The mean score for reported roles and their professional qualifications were determined using F distribution.

RESULTS AND DISCUSSION

From a total number of 290 primary health care centres in Delta state, 29 institutions constituting 10% of the population and all nurses in these institutions constituted the sample units for the study. The distribution of the nurses is as shown (Table 1). As depicted on the table, all the respondents were registered nurses. Table 2, presents a summary of the demographic features of the respondents in the study. The figures indicate that almost all the respondents were females (n = 83) with only 2 males. Over 40% of them were in the age group 41-50 years. About 90% of them were married and all were Christians. Majority (48%) were Igbos by ethnicity, while a few were Hausas (2%). About 6% of the respondents had bachelor's degree and 2% had Master's Degree in Public Health (MPH). Out of the five respondents that had bachelor's degree, only one had a degree in nursing. According to the

Nurses Hypertension Association (NHA, 2004), guideline, the nurses roles in the prevention of high blood pressure include: recognise potential areas for change to prevent secondary complications in hypertensive patients, work with clients to identify lifestyle factors that may influence hypertension management, counsel clients with hypertension to limit their dietary intake of sodium, advocate weight reduction strategies for overweight and obese clients, assist clients diagnosed with hypertension to understand their reaction to stressful events and how to cope and manage stress effectively, explore client's expectations and beliefs regarding their hypertension management and at each appropriate visit, assess client's adherence to treatment plan, educate clients on the importance of achieving and maintaining their target blood pressures, do routine discussion of alcohol consumption status with clients, at each visit, establish client's tobacco use status and implement brief tobacco interventions, obtain client's medication history, establish therapeutic relationships with clients, provide information for client's with hypertension to make educated choices related to treatment plan, work with prescribers to simplify client's dosing regimens and ensure that client's who miss appointments receive follow up messages for continuity of care. Data also revealed that all the nurses performed the reported roles/functions at varying degrees. Out of the 30 nurses observed, they were only able to meet up to 50% performance in only 6 of the identified roles/functions. The numbers that were observed performing the other 9 roles/functions were below 50%. Table 3 gives details on performance of respondents' roles in prevention of high blood pressure. Statistical analysis shows that there was association between professional qualifications of the nurses and their roles in prevention of high blood pressure. Nurse – led management of people with high blood pressure has led to improvements due to strict adherence to protocols, agreed target blood pressure, improved prescribing and compliance and regular follow-up[7]. During this study, nurses reported they perform some roles in the various primary health care centers. These roles include: recognise potential areas for change to prevent secondary complications in hypertensive patients, work with clients to identify lifestyle factors that may influence hypertension management, counsel clients with hypertension to limit their dietary intake of sodium, advocate weight reduction strategies for overweight and obese clients, assist clients diagnosed with hypertension to understand their reaction to stressful events and how to cope and manage stress effectively, explore client's expectations and beliefs regarding their hypertension management and at each appropriate visit, assess client's adherence to treatment plan, educate clients on the importance of achieving and maintaining their target blood pressures, do routine discussion of alcohol consumption status with clients, at each visit, establish client's tobacco use status and implement brief tobacco interventions, obtain client's medication history, establish

therapeutic relationships with clients, provide information for client's with hypertension to make educated choices related to treatment plan, work with prescribers to simplify client's dosing regimens and ensure that client's who miss appointments receive follow up messages for continuity of care. Thirty 30 randomly selected nurses were observed to know if they actually perform these roles as reported. This was done through observation of the nurses during patient's assessment activities and when carrying out some other nursing activities or procedures in the various primary health care centres. The nurses' documentation records of their various activities for each day were also a source of information to know if they actually perform these roles. Table 3, reflects some of the reported roles that were not performed as reported. These include: recognise potential areas for change to prevent secondary complications in hypertensive patients was reported by 99% but was performed by 30% on observation. Educate clients on the importance of achieving and maintaining their target blood pressures was reported by 39% but none of the nurses observed performed the role, this may be attributed to their knowledge base of target blood pressure levels used for hypertensive patients. At each visit, establish client's tobacco use status and implement brief tobacco intervention was reported by 20% but none performed the role. Assist clients diagnosed with hypertension to understand their reaction to stressful events and how to cope and manage stress effectively was reported by all the nurses but just 40% performed the role. In previous studies[8], revealed that psycho-educational care lowered the patients' blood pressure significantly and by using a person centered holistic approach in conversations with patients about different stress factors to help them mobilize their inner resources to overcome losses or grief, the patients blood pressure decreased by 24/23mmHg monthly after 1year. Establish therapeutic relationships with clients was reported by 58% but performed by just 3%. Explore client's expectations and beliefs regarding their hypertension management and assess client's adherence to treatment plan were both reported by all the nurses but just 7% and 47% respectively performed the roles. Work with prescribers to simplify client's dosing regimens was reported by 61% but none of the nurses performed the role, this may be attributed to nurses attitude towards reference groups (professional colleagues, members of the health care team) especially the fear that these key referents may or may not have the same opinion with her or approve of her skills and practices. Ensure that client's who miss appointments receive follow up messages for continuity of care was reported by 13% but performed by just 3%. These were justified by the nurses' poor documentation after assessing the patients. Despite their shortfalls, some of the reported roles were actually performed on observation. These roles were: work with clients to identify lifestyle factors that may influence hypertension management, counsel clients with hypertension to limit their dietary

intake of sodium, advocate weight reduction strategies for clients, and do routine discussion of alcohol consumption status with clients. Similarly[9], in their study noted that the nurse gives sufficient care and the results of reducing the patient's weight and changes in lifestyle (smoking cessation, reduction in alcohol intake, salt restriction and increase in physical activity) were good. Others are obtaining client's medication history and providing information for client's with hypertension to make educated choices related to treatment plan. In previous studies[10], noted that compliance with medication was 20% higher at nurse-run clinics. It was also reported that compliance with follow-up visits increased when a nurse joined a physician in hypertension care[11]. Yet another study revealed that patients received better information, had more time, and had the chance to ask questions with a nurse and also had positive attitude toward their disease and healthcare[10, 12], reported the following findings about nurses role in prevention of high blood pressure: average longer conversations with nurses than doctors; nurses talked to patients about other vascular risk factors more than doctors; doctor consultations focused on medication more than nurse consultations; patients raised more new topics with nurses than doctors. As a follow up, I recommend that facilities should organize training courses on hypertension management for their nurses. This will assist in providing and updating them with the latest information on the management of this condition. It would also be beneficial to include new trends in nursing education. The NHA guidelines would need to be introduced to students while in school. Standards of practice should also make the use of the guidelines an essential component of clients' care.

Table 1: Distribution of nurses in the selected 29 primary health care centres in Delta State, Nigeria

PHC Centres	Nurses	Professional Qualification			
	Frequency n=85 (%)	RN n= (%)	RM n= (%)	RN,RM n= (%)	RN, RM, B.Sc /B.N.Sc n= (%)
Isseluku	2 (2.4)			2 (2.4)	
Onichaugbo	3 (3.5)			3 (3.5)	
Issleazagba	1 (1.2)			1 (1.2)	
Ubulunor	7 (8.2)			7 (8.2)	
Ubulukwu	2 (2.4)			2 (2.4)	
Ubuluokiti	2 (2.4)			2 (2.4)	
Oria-abraka	1 (1.2)			1 (1.2)	
Abraka	3 (3.5)	1 (1.2)		2 (2.4)	
Igu-eku	2 (2.4)			1 (1.2)	1 (1.2)
Orono	1 (1.2)			1 (1.2)	
Oghara	3 (3.5)			3 (3.5)	
Umunede	4 (4.7)			4 (4.7)	
Boji-bojiowa	3 (3.5)			3 (3.5)	
Agbor obi	5 (5.9)			5 (5.9)	1 (1.2)
Abavo	3 (3.5)			3 (3.5)	

Oleh	1 (1.2)		1 (1.2)	
Kwale	6 (7.1)		6 (7.1)	2 (2.4)
Orerokpe	3 (3.5)		3 (3.5)	
Akwukwuigbo	4 (4.7)		4 (4.7)	1 (1.2)
Illah	3 (3.5)		3 (3.5)	
Achalaigbuzo	4 (4.7)		4 (4.7)	
Okpanam	4 (4.7)		4 (4.7)	
Ughelli	2 (2.4)	1 (1.2)	1 (1.2)	
Obiaruku	2 (2.4)		2 (2.4)	
Umutu	1 (1.2)		1 (1.2)	
Warri	4 (4.7)		4 (4.7)	
Effurun	3 (3.5)		3 (3.5)	
Afiesere	2 (2.4)		2 (2.4)	
Ozoro	4 (4.7)		4 (4.7)	

PHC= Primary Health Care RN=Registered Nurse RM=Registered Midwife

B.Sc=Bachelor of Science B.N.Sc=Bachelor of Nursing Science

Table 2: Distribution of respondents by the demographic characteristics

Age	**Frequency n=85 (%)**
20-30	2(2.4)
31-40	26(30.6)
41-50	38(44.7)
51 -60	19(22.4)
Marital status	
Single	3(3.5)
Married	82(96.5)
Gender	
Male	2(2.4)
Female	83(97.6)
Ethnicity	
Igbo	41(48.2)
Yoruba	1(1.2)
Hausa	2(2.4)
Urhobo	15(17.6)
Itsekiri	3(3.5)
Isoko	4(4.7)
Kwale	6(7.1)
Ika	13(15.3)
Religion	
Christianity	85(100.0)
Highest educational level	
Basic nursing education	77(90.6)
B.N.Sc/ B.Sc	5(5.9)
Master degree	2(2.4)
Postgraduate diploma	1(1.2)
Specialized training	
Basic training in nursing	37(43.5)
PHN	18(21.2)
Family planning provider	2(2.4)
CHO	5(5.9)

PHN/CHO	19(22.4)
LSS	4(4.7)
Length of service(years)	
1-5	3(3.5)
6-10	13(15.3)
11-15	12(14.1)
16-20	12(14.1)
21-25	23(27.1)
26-30	16(18.8)
31-35	6(7.1)

B.N.Sc=Bachelor of Nursing Science B.Sc=Bachelor of Science PHN=Public Health Nurse CHO=Community Health Officer LSS=Life Saving Skill

Table 3: Distribution of respondents by their responses to the roles in prevention of high blood pressure

	Reported roles performed n=85(%)	**Observed roles performed n=30(%)**
Recognize potential areas for change	84 (98.8)	9 (30.0)
Identify lifestyle factors	85 (100.0)	***29 (96.7)***
Achieve and maintain target BP	33 (38.8)	0 (0.0)
Counsel on low dietary intake of sodium	85 (100.0)	***30 (100.0)***
Advocate weight reduction strategies	85 (100.0)	***30 (100.0)***
Discuss alcohol reduction strategies	56 (65.9)	***15 (50.0)***
Implement Brief Tobacco Interventions	17 (20.0)	0 (0.0)
Assist in stress management	85 (100.0)	12 (40.0)
Obtain client's medication history	51 (60.0)	***17 (56.7)***
Establish therapeutic relationships	49 (57.6)	1 (3.3)
Explore client's expectations and beliefs	85 (100.0)	2 (6.7)
Assess adherence to the treatment plan	85 (100.0)	14 (46.7)
Provide information for making educated choices	67 (78.8)	***30 (100.0)***
Simplify client's dosing regimens	52 (61.2)	0 (0.0)
Give follow-up care	11 (12.9)	1 (3.3)

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